2022 Water Quality Report for City of Center Line

Water Supply Serial Number: 01290

This report covers the drinking water quality for City of Center Line's community water supply for the 2022 calendar year. This information is a snapshot of the quality of the water that we provided to you in 2022. Included are details about where your water comes from, what it contains, and how it compares to United States Environmental Protection Agency (U.S. EPA) and state standards.

Drinking water quality is important to our community and the region. The City of Center Line and the Great Lakes Water Authority (GLWA) are committed to meeting state and federal water quality standards including the Lead and Copper Rule. With the Great Lakes as our water source and proven treatment technologies, the GLWA consistently delivers safe drinking water to our community. The City of Center Line operates the system of water mains that carry this water to your homes service line. This year's Water Quality Report highlights the performance of GLWA and The City of Center Line's water professionals in delivering some of the nation's best drinking water. Together, we remain committed to protecting public health and maintaining open communication with the public about our drinking water.

Your water comes from Great Lakes Water Authority's (GLWA) Northeast Water Treatment Plant. Your source water comes from the Detroit River, situated within the Lake St. Clair, and several watersheds within U.S. and Canada. EGLE - Environment, Great Lakes and Energy, in partnership the GLWA and several other governmental agencies performed a source water assessment in 2004 to determine the susceptibility or relative potential of contamination. The susceptibility rating is on a seven-tiered scale from "very low" to "very high" based primarily on geologic sensitivity, water chemistry, and contamination sources. The susceptibility of GLWA's Detroit River source water intakes was determined to be highly susceptible to potential contamination. However, all four Detroit water treatment plants that use source water from Detroit River have historically provided satisfactory treatment of this source water to meet drinking water standards.

GLWA initiated source-water protection activities that include chemical containment, spill response, and a mercury reduction program. GLWA participates in a National Pollutant Discharge Elimination System permit discharge program and has an •emergency response management plan. GLWA voluntarily developed and receive approval in 2016 for a source water protection program (SWIPP) for the Detroit River intakes. The programs include seven elements that include the following: roles and duties of government units and water supply agencies, delineation of a source water protection area, identification of potential of source water protection area, management approaches for protection, contingency plans, siting of new sources and public participation and education. If you would like to know more information about the Source Water Assessment or SWIPP, contact your water department (586)758-8278.

The United States Environmental Protection Agency (EPA) issued new federal regulations requiring water utilities to annually issue a "Consume! Confidence Report" to all of its customers. This report is provided to customers of the Center Line water system. Future reports will be issued in July of each year.

As you likely know, the City of Center Line purchases its water from the Great Lakes Water Authority (GLWA) for distribution to all of our homes and businesses. GLWA provides water to approximately 4.2 million people (nearly one-half of Michigan's population) in 126 Michigan communities. The system uses water drawn from two intakes in the Detroit River, one to the north near the mouth of Lake St. Clair and one to the south near Lake Erie. The water is directed to four large water treatment plants for processing, one of which services Center Line; the Northeast Treatment Plant.

The GLWA's treatment facilities operate 24 hours a day, seven days a week. They are staffed by licensed operators and technicians. Ir addition to a carefully controlled and monitored treatment process, the water is tested for a variety of substances before treatment, during various stages of treatment and throughout the distribution system including Center Line.

The GLWA routinely takes samples of water from our system. These samples are tested in their certified laboratories by highly qualified trained staff.

They are required to follow guidelines set forth by the EPA and EGLE - Environment, Great Lakes and Energy.

Test results of water samples taken in Center Line are provided to us on a regular basis. GLWA water not only meets or exceeds all safety and health standards, but also ranks among the top ten systems in the country for quality and value.

The City of Center Line and the Great Lakes Water Authority are committed to safeguarding our water supply and delivering the highest quality drinking water to protect public health. Please contact us with and questions or concerns about your water.

The rest of what follows in this report is language that is mandated by the U.S. Environmental Protection Agency. As well, the chart included with this report is required information that show contaminant test results for the Northeast Water Treatment Plant. You will note that there are no violations at the treatment facility. If you would like to know more about this report, please contact: **Nicholas Schaefer, DPW Superintendent, (586) 855-8452**.

Contaminants and their presence in water: Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the **U.S. EPA's Safe Drinking Water Hotline (800-426-4791)**.

Warning about the vulnerability of some populations to contaminants in drinking water. (5151.154(a)).

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or high blood pressure.

If your home has a lead service line or piping that has lead soldered joints you can take the following precautions to minimize your exposure to lead that may have leached into your drinking water from your pipes:

- Run your water for 30 seconds to 2 minutes, or until it feels cold. This practice would be followed anytime your water has not been used for more than 6 hours.
- Always use cold water for drinking, cooking or making baby formula.
- Use faucets and plumbing materials that are either lead free or will not leach unsafe levels of lead into your water.

Approximately 279 lead services, and 2125 services of unknown material out of 2452 existing service lines, have been identified as of December 31, 2022. We will continue to identify lead service lines in 2023 at various locations throughout the City.

Monitoring and Reporting to the Department of Environment, Great Lakes, and Energy (EGLE) Requirements: The State of Michigan and the U.S. EPA require us to test our water on a regular basis to ensure its safety.

The City received communication from EGLE regarding a Violation Notice "Monitoring and Reporting for Lead and Copper" dated Nov. 22, 2022. The City completed the required sampling and forwarded the required sampling report via email to EGLE on September 19, 2022 however, EGLE had not received the required reporting by the deadline.

We will update this report annually and will keep you informed of any problems that may occur throughout the year, as they happen. Copies are available at Center Line City Hall, 7070 East Ten Mile Road, Center Line, Michigan 48015 and the website:

https://centerline.gov/187/Water-Quality-Report

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This report will not be sent to you.

We invite public participation in decisions that affect drinking water quality. For more information about your water, or the contents of this report, contact **Nicholas Schaefer, DPW Superintendent, (586) 855-8452**.

For more information about safe drinking water, visit the U.S. EPA at http://www.epa.gov/safewater.

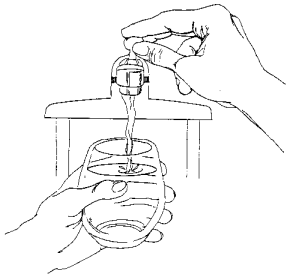
Monitoring and Reporting Requirements:

The State and EPA require us to test our water on a regular basis to ensure its safety.

Vulnerability of sub-populations: Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune systems disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. EPA/Center for Disease Control guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the **Safe Drinking Water Hotline (800-426-4791)**.

Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- **Inorganic contaminants**, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture and residential uses.
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities.
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.



In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the levels of certain contaminants in water provided by public water systems. Federal Food and Drug Administration regulations establish limits for contaminants in bottled water which provide the same protection for public health.

Water Quality Data

The table below lists all the drinking water contaminants that we detected during the 2022 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2022. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. All the data is representative of the water quality, but some are more than one year old.

2022 Northeast Regulated Detected Contaminants Table

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2022 Inorganic Chemicals - Annual Monitoring at Plant Finished Tap

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level Detected	Range of Detection	Violation	Major Sources in Drinking Water
Fluoride	7-12-2022	ppm	4	4	**0.59**	**n/a**	**no**	Erosion of natural deposit; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	7-12-2022	ppm	10	10	**0.97**	**n/a**	**no**	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Barium	5-16-2017	ppm	2	2	**0.01**	**n/a**	**no**	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Lead and Copper Monitoring at the Customer's Tap in 2022

Regulated Contaminant	Unit	Year Sampled	Health Goal MCLG	Action Level AL	90th Percentile Value*	Range of Individual Samples Results	Number of Samples Over AL	Major Sources in Drinking Water
Lead	ppb	2022	0	15	**5.4**	**1.0-11.2**	**0**	Lead services lines, corrosion of household plumbing including fittings and fixtures; Erosion of natural deposits.
Copper	ppm	2022	1.3	1.3	**0**	**0.0-0.1**	**0**	Corrosion of household plumbing systems; Erosion of natural deposits.

* The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.

2022 Disinfection Residual - Monitoring in the Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MRDLG	Allowed Level MRDL	Highest Level RAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
Chlorine Residual	2022	ppm	4	4	**0.69**	**0.55-0.76**	**no**	Water additive used to control microbes

2022 Disinfection By-Products - Stage 2 Disinfection By-Products Monitoring in the Distribution System

Regulated Contaminant	Test Date	Unit	Health Goal MCLG	Allowed Level MCL	Highest Level LRAA	Range of Quarterly Results	Violation	Major Sources in Drinking Water
(TTHM) Total Trihalomethanes	2022	ppb	n/a	80	**56**	**9.2-43.3**	**no**	By-product of drinking water chlorination
(HAA5) Haloacetic Acids	2022	ppb	n/a	60	**15**	**2 - 12**	**no**	By-product of drinking water chlorination

2022 Turbidity - Monitored Every 4 Hours at the Plant Finished Water Tap			
Highest Single Measurement Cannot Exceed 1 NTU	**Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)**	**Violation**	**Major Sources in Drinking Water**
0.10 NTU	**100%**	**no**	Soil Runoff
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system			

Regulated Contaminant	Treatment Technique	Typical Source of Contaminant
Total Organic Carbon ppm	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC is measured each quarter and because the level is low, there is no requirement for TOC removal.	Erosion of natural deposits

2022 Special Monitoring						
Contaminant	**Test Date**	**Unit**	**MCLG**	**MCL**	**Highest Level Detected**	**Source of Contaminant**
Sodium	7-12-2022	ppm	n/a	n/a	**5.6**	Erosion of natural deposits

These tables are based on tests conducted by GLWA in the year 2022 or the most recent testing done within the last five calendar years. GLWA conducts tests throughout the year only tests that show the presence of a substance or require special monitoring are presented in these tables. The State allows us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. The data is representative of the water quality, but some are more than one year old.

2022 Northeast Tap Water Mineral Analysis

Parameter	Units	Max.	Min.	Avg.		Parameter	Units	Max.	Min.	Avg.
Turbidity	NTU	**0.09**	**0.03**	**0.04**		**Phosphorus**	ppm	**0.50**	**0.24**	**0.42**
Total Solids	ppm	**163**	**110**	**138**		**Free Carbon Dioxide**	ppm	**12.6**	**6.9**	**8.9**
Total Dissolved Solids	ppm	**169**	**98**	**135**		**Total Hardness**	ppm	**104**	**76**	**92**
Aluminum	ppm	**0.111**	**0.016**	**0.047**		**Total Alkalinity**	ppm	**100**	**70**	**79**
Iron	ppm	**0.5**	**0.2**	**0.3**		**Carbonate Alkalinity**	ppm	**ND**	**ND**	**ND**
Copper	ppm	**0.003**	**0.001**	**0.002**		**Bi-Carbonate Alkalinity**	ppm	**100**	**70**	**78**
Magnesium	ppm	**8.5**	**7.2**	**7.7**		**Non-Carbonate Hardness**	ppm	**34**	**ND**	**14**
Calcium	ppm	**28.0**	**24.8**	**26.0**		**Chemical Oxygen Demand**	ppm	**10.2**	**ND**	**3.3**
Sodium	ppm	**7.1**	**4.8**	**5.4**		**Dissolved Oxygen**	ppm	**14.1**	**7.6**	**11.1**
Potassium	ppm	**1.1**	**0.9**	**1.0**		**Nitrite Nitrogen**	ppm	**ND**	**ND**	**ND**
Manganese	ppm	**ND**	**ND**	**ND**		**Nitrate Nitrogen**	ppm	**0.97**	**0.25**	**0.39**
Lead	ppm	**ND**	**ND**	**ND**		**Fluoride**	ppm	**0.80**	**0.50**	**0.58**
Zinc	ppm	**0.010**	**ND**	**0.001**		**pH**		**7.34**	**7.08**	**7.25**
Silica	ppm	**2.5**	**1.6**	**2.1**		**Specific Conductance @ 25 °C.**	µmhos	**283**	**167**	**218**
Sulfate	ppm	**31.3**	**19.9**	**26.7**		**Temperature**	°C	**23.1**	**6.0**	**14.5**
Chloride	ppm	**14.4**	**8.3**	**10.7**						

Key to the Detected Contaminants Table

Symbol	Abbreviation	Definition/Explanation
>	Greater than	
°C	Celsius	A scale of temperature in which water freezes at 0° and boils at 100° under standard conditions.
AL	Action Level	The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
HAA5	Haloacetic Acids	HAA5 is the total of bromoacetic, chloroacetic, di-bromoacetic, dichloroacetic, and trichloroacetic acids. Compliance is based on the total.
Level 1	Level 1 Assessment	A Level 1 assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our system.
LRAA	Locational Running Annual Average	The average of analytical results for samples at a particular monitoring location during the previous four quarters.
MCL	Maximum Contaminant Level	The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow a margin of safety.
MRDL	Maximum Residual Disinfectant Level	The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
MRDLG	Maximum Residual Disinfectant Level Goal	The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.
n/a	not applicable	
ND	Not Detected	
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
pCi/L	Picocuries Per Liter	A measure of radioactivity
ppb	Parts Per Billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	Parts Per Million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
RAA	Running Annual Average	The average of all analytical results for all samples during the previous four quarters.
SMCL	Secondary Maximum Contaminant Level	
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
TTHM	Total Trihalomethanes	Total Trihalomethanes is the sum of chloroform, bromodichloromethane, dibromochloromethane and bromoform. Compliance is based on the total.
µmhos	micromhos	Measure of electrical conductance of water